Subject Index to Volume 23

A

Acetylcholine
  cholinergic neurotransmission, corpus cavernosum, H459
  coronary dilation induced by, endothelial recovery after, H1081
  measurement, vascular pressure-volume relations, H115
  vasomotion, cerebral microcirculation, awake state, H67
Acid-base balance, potassium depletion and, cerebral blood flow, H250
Acidosis, contractile response, catecholamines (chick), H20
Adenine nucleotides
  aging, exercise and diet effects, heart, H599
  metabolism, endothelial cells, hypoxia effects (pig), H223
Adenosine
  blood flow and, choroid plexus, H286
  handling, interstitia of cremaster muscle, H369
  insulin-stimulated glucose uptake and, myocardial, H970
  interstitial transudate concentration, heart, H1125
  left ventricular interstitial fluid, during catecholamine stimulation, H207
  release, endothelial, during hypoxia and metabolic inhibition (pig), H223
  vasomotion, cerebral microcirculation, awake state, H67
Adenosine deaminase
  coronary functional hyperemia and, norepinephrine-induced, H417
  coronary vasodilation and, global myocardial hypoxia (guinea pig), H1004
Adenosine monophosphate, cyclic, inotropy and gap junction conductance, cardiac myocytes, H1206
Adenosine triphosphate
  calcium and
    resting tension, heart, H678
  different catabolism, adult and newborn hearts, H1091
  hypoxia effects, aortic endothelial cells (pig), H223
  magnesium-chloride and, pretreatment, ischemia-reperfusion injury, H702
Adrenergic mechanisms
  vascular control, newborn (pig), H671
  vasoconstriction, H984
Adrenergic nerves, carotid artery, endothelium inhibition of norepinephrine release, H871
Afferents, intestinal, cardiovascular function and, H354
Afterload
  left ventricle, optimal matching, H1051
  resistance: *see* Resistance
Aging
  exercise and feeding effects, heart, H599
  training status and, heart rate recovery after exercise, H340
Albumin
  binding, specific to microvascular endothelium, H425
  initial equilibration, hindpaw skin and lymph, H89
  stability and longevity, perfluorochemical-perfused heart, H1105
Allopurinol, importance, *E. coli* endotoxemia, H954
γ-Aminobutyric acid, rostral receptors, depressor neuron effects, H686
ANF: *see* Atrial natriuretic factor
Angiogenesis, coronary, venular endothelial cells, H1211
Angiotensin
  arginine vasopressin and, cardiovascular effects, pulmonic stenosis, H438
  blood flow and, finger, H889
Angiotensin II
  bradykinin actions and, H1042
  hypertension and, autoregulation, H709
  pulmonary hypertension and vascular changes, H500
Anoxia, cellular markers, interstitial transudate, heart, H785
ANP: *see* Atrial natriuretic peptide
Anterior descending artery, left, risk area size and location, H473
Aorta, endothelial cells, adenosine release, hypoxia and (pig), H223
Aortic nerve, posthemorrhage hypotension, baroreflex compensation, H1074
Aortic valve ring, on-line measurement, during cardiac cycle, H795
AP_4A: *see* Diadenosine tetraphosphate
AP_3A: *see* Diadenosine triphosphate
Area postrema, cardiovascular regulation and, H963
Arrhythmias
  cardiac, phase-locked rhythms (chick), H1
  reperfusion-induced, glucose and mannitol, H862
Arterial bed, systemic, ventricular-systemic coupling, model, H609
Arteries: *see also* specific artery
  vasomotor activity, AP_3A and AP_4A, H828
Arteriography, coronary, fMLP-induced coronary spasm, H481
Arterioles
  density, microspheres, myocardium, H636
  wall shear rate, H1059
Arteriolar networks
  sartorius muscle, distribution of vascular resistance, H1149
  skeletal muscle, response to sympathetic nerve stimulation, H919
Asphyxia, endogenous opioids, awake state, H72
Aspirin, primary hemostasis, platelet-activating factor and, H1218
Asynchrony, myocardial relaxation and, rest and exercise, awake state, H817
ATP: *see* Adenosine triphosphate
Atrial natriuretic factor
  hemodynamic actions, awake state (sheep), H811
  vascular relaxation and cGMP, hypertension and, H163
Atria: *see* Heart atria
Atrioventricular node
  conduction
    integration of heart rate and sympathetic neural effects, H651
    ouabain treatment and, H313
Autonomic nervous system, pulmonary vasoregulation, after hypoperfusion, awake state, H976
Autoregulation, long-term, intermittent hypoxia effects, embryo (chick), H1194
AVP: *see* Vasopressin, arginine
AV: *see* Atrioventricular node
Awake state
  ANF, long-term hemodynamic actions (sheep), H811
  bacterial shock, myocardial function and, H558
  blood volume and blood pressure, central (monkey), H693
  hemorrhage, cardiovascular and hormonal response, H947
  hypoperfusion, pulmonary vasoregulation after, H976
  nitroglycerin effects, myocardial collateral conductance, H751
  nonhypotensive endotoxemia, prostaglandin effects, H509
  postischemic dysfunction, time course and determinants, H102
  rest and exercise, myocardial relaxation, asynchrony effects, H817
  vascular bed responses to vasopressin, after cholinergic blockade, H45
  vasomotion, cerebral microcirculation, H67

B

Bacterial shock: *see* Shock
Beat-to-beat evaluation, baroreflex, blood pressure monitoring, H377
Bethanechol, stimulation of intestinal afferents, cardiovascular function and, H354
Bicuculline, depressor neuron action and, rostral medulla, H686
Bleeding, time, platelet-activating factor and, H1218
Blockade
  adrenergic, postsynaptic adrenoceptor-mediated vasoconstriction, H984
  cholinergic, vascular bed responses to vasopressin, H45
Blood
  artificial substitutes, regional cerebral blood flow and, H719
  constituents: *see* Constituents
  volume: *see* Volume
  wave velocity, systemic arterial bed, model, H609
Blood flow: *see also* Circulation; Microcirculation
  cerebral
    adrenergic-prostanoid control (pig), H671
    developmental changes, fetus and newborn (lamb), H52
    fluorocarbon exchange, H719
    potassium depletion and, H250

Blood flow (*continued*)
response to hematocrit, H156
vasoactive stimuli effects, H286
coronary
dilation, endothelial recovery after, H1081
myocardial infarct size, dobutamine effects, H855
postsynaptic adrenoceptor-mediated vasoconstriction, H984
coronary collateral
postischemic dysfunction, H102
ventricular preload, fetus (lamb), H532
cutaneous, vasoconstrictor system effects on leg vasodilation (baboon), H11
finger, reflex sympathetic response to cooling, serotonin and, H889
local, vasoconstrictor-induced hypertension, H709
local tissue, spatial heterogeneity, heart, H344
microvascular
sympathetic escape, skeletal muscle, H929
sympathetic nerve stimulation, skeletal muscle, H919
new microvessels, regrowth of vasa vasorum, H126
nitroglycerin effects, awake state, H751
pituitary, chemoreceptors and, H742
regional, prostaglandins and, awake state, H509
transmural, aortic pressure effects, left ventricle, H361
vasopressin effects, after cholinergic blockade, H45
Blood pressure: *see also* Pressure
α_1 and α_2 receptors, electrophysiology, H756
ANF actions and, awake state (sheep), H811
central, awake state (monkey), H693
changes, sleep-wake cycle, computer analysis, H217
exercise and, hypertensive response, H592
homeostasis, norepinephrine release, paraventricular hypothalamic nucleus, H993
humoral inotropic factor, hypertension, H230
improved techniques for monitoring, H181
monitoring, evaluation of baroreceptor reflex by, H377
neuropeptide Y injection and, posterior hypothalamic nucleus, H879
vasopressin effects, after cholinergic blockade, H45
Blood volume: *see also* Volume
central, awake state (monkey), H693
norepinephrine effects, fetus (sheep), H734
static exercise effects, H592
Bradycardia, vasopressin-mediated, preoptic area role in, H1172
Bradykinin
cardiopulmonary response, endotoxin administration (sheep), H833
stimulation of intestinal afferents, cardiovascular function and, H354
vascular actions, kininase II effects, H1042
Brain
blood flow: *see* Blood flow
metabolism
adrenergic-prostanoid control, newborn (pig), H671
fluorocarbon-for-blood exchange and, H719
2,3-Butanedione monoxine, calcium and, resting tension, heart, H678

C

Calcium
contractile properties and, ventriculocytes, H59
coupling, single ventricular cell, H937
hypoxia-induced gain, rise in resting tension and, heart, H678
reoxygenation-induced overload, heart cells, embryo (chick), H1133
sensitivity, pressure overload, skinned myocardium, H517
spontaneous vasomotion, cerebral artery, genetic hypertension, H28
Calcium-force relations, myoplasmic, stimulation of aortic smooth muscle, H840
cAMP: *see* Adenosine monophosphate, cyclic
Capillaries
pressure: *see* Pressure
transport, albumin binding, microvascular endothelium, H425
Capsaicin, stimulation of intestinal afferents, cardiovascular function and, H354
Carbachol
inotropy and gap junction conductance, cardiac myocytes, H1206
neuropeptide Y injections and, blood pressure, H879
Cardiac cycle, aortic valve ring deformation, on-line measurement, H795
Cardiac output
ANF actions and, awake state (sheep), H811
hormonal response, hemorrhage, awake state, H947
improved techniques for monitoring, H181
ventilation with PEEP, end-systolic pressure-volume relations and, H664
Cardiopulmonary response, endotoxin administration (sheep), H833
Cardiovascular regulation, area postrema and, H963
Cardiovascular response, hemorrhage, awake state, H947
Cardiovascular system
AVP and angiotensin effects, pulmonic stenosis, H438
intestinal afferents and, H354
norepinephrine effects, fetus (sheep), H734
Carotid artery, adrenergic nerves, endothelium inhibition of norepinephrine release, H871
Catalase, importance, *E. coli* endotoxemia, H954
Catecholamines
bradykinin actions and, H1042
contractile response to, during acidosis (chick), H20
electrophysiological evidence, solitary nucleus, H756
nonhypotensive endotoxemia and, awake state, H509
opioid modulation of, hypoxemia and hypercapnia, awake state, H72
stimulation, interstitial fluid adenosine during, left ventricular, H207
Cellular markers, interstitial transudate, heart, H785
Cerebral artery, vasomotion, genetic hypertension, H28
Cerebrospinal fluid
cortical, histamine dilation of pial arteries, newborn (pig), H1023
ionic regulation, potassium depletion and, H250
cGMP: *see* Guanosine monophosphate, cyclic
2-Chloroadenosine, handling, interstitia of cremaster muscle, H369
Choline acetyltransferase, cholinergic neurotransmission, corpus cavernosum, H459
Cholinergic nerves, transmission, corpus cavernosum, H459, H468
Choroid plexus, blood flow, vasoactive stimuli effects, H286
Cinefluoroscopy, biplane, right ventricular volume and pressure, H622
Circulation: *see also* Blood flow; Microcirculation
cardiopulmonary, chronic sodium depletion, H905
cerebral, histamine dilation of pial arteries, newborn (pig), H1023
coronary, local hemodilution, H525
hepatic, portal pressure and, H452
pial, sciatic nerve stimulation effects, H133
pulmonary
after hypoperfusion, awake state, H976
FPL 57231 and, fetal (sheep), H120
hypoxia effects, newborns with left atrial hypertension (lamb), H487
improved techniques for monitoring, H181
oxygen and, fetus (lamb), H532
splanchnic, vasoconstrictor-induced hypertension, H709
sympathetic control, skeletal muscle, H929
Clonidine, blood flow and, finger, H889
Cobra venom factor, pulmonary injury and, H258
Cocaine, norepinephrine release and, intestine, H1187
Compliance
vascular, acetylcholine measurement, H115
venous, thyroid state effects, H81
Coronary artery
denudation, endothelial recovery after, H1081
reperfusion, postischemic dysfunction, H102
Coronary bed
embolization, ventricle-load optimization, H1051
postsynaptic adrenoceptor-mediated vasoconstriction, H984
Coronary flow: *see* Flow
Coronary occlusion
nitroglycerin effects, awake state, H751
risk area size and location, H473
Corpus cavernosum, cholinergic neurotransmission, H459, H468
Corticosterone, plasma, cardiovascular and hormonal response, H947
Coupling, ventricular/arterial, optimal, model, H609

Creatine kinase
interstitial transudate, heart, H785
pressure overload, skinned myocardium, H517
Cremaster muscle, interstitia of, adenosine handling in, H369
Currents, ionic, tetrodotoxin and lidocaine effects on action potentials, ventricular myocytes, H1157
Cytochalasin B, endotoxemia, neutrophil activation and, H1017
Cytochrome, aging, exercise and diet effects, heart, H599
Cytochrome *C*, triiodothyronine effects, myocardial dysfunction, chronic diabetes, H265

D

Deferoxamine, importance, *E. coli* endotoxemia, H954
Defibrillation, cardiac transmural electrodes, fabrication technique, H804
Dehydration, leg vasodilation, vasoconstrictor system effects (baboon), H11
Depolarization, maximum rate, tetrodotoxin and lidocaine effects on action potentials, ventricular myocytes, H1157
Depressor neurons, GABA receptors and, rostral medulla, H686
Development, cerebral blood flow, fetus and newborn (lamb), H52
Diabetes, chronic, myocardial dysfunction in, triiodothyronine effects, H265
Diadenosine tetraphosphate, vasomotor activity, isolated arteries, H828
Diadenosine triphosphate, vasomotor activity, isolated arteries, H828
Diastolic function, thyroid state effects, H81
Diet: *see* Feeding
Dihydropyridine, receptors: *see* Receptors
Dipyridamole
adenosine release and, aortic endothelial cells (pig), H223
handling, interstitia of cremaster muscle, H369
interstitial transudate concentration of adenosine and, heart, H1125
Dobutamine, infarct size and, myocardial, H855
Dose-response relations, autoregulation, vascular resistance and, hypertension, H709

E

Echocardiography, left ventricular cavity shape change, site of regional ischemia and, H547
Elastance
maximum, ventricle-load optimization, H1051
ventricular, end-systolic pressure-volume relations, H1113
Electrodes, transmural cardiac, fabrication technique, H804
Electromagnetic induction, aortic valve ring, during cardiac cycle, H795
Electrophysiology
α_1 and α_2 receptors, solitary nucleus, H756
cardiac transmural electrodes, fabrication technique, H804
Embolization, quantification by microspheres, myocardium, H636
Embryo
cardiac β-receptors, acidosis effects (chick), H20
heart cells, reoxygenation-induced calcium overload (chick), H1133
structural vascular adaptation, intermittent hypoxia effects (chick), H1194
Endocrine system, norepinephrine effects, fetus (sheep), H734
Endothelial cells, venular, heart, H1211
Endothelium, regeneration, denudation of coronary artery, H1081
Endothelium-derived relaxing factor
cGMP and, hypertension, H163
norepinephrine release and, adrenergic nerves of carotid artery, H871
Endotoxemia
cardiovascular monitoring, improved techniques, H181
chronic, left ventricular function in (swine), H324
E. coli, importance of oxygen free radicals, H954
neutrophil activation and, H1017
nonhypotensive, prostaglandins and, awake state, H509
Endotoxin, continuous administration, cardiopulmonary responses (sheep), H833
End-systolic pressure-thickness relations, afterload resistance effects, H658
Energetics
cardiac, low coronary perfusion effects, H292
myocardial, negative work effects, left ventricle, H34
Enzymes: *see also* specific enzyme
activities, exercise and feeding effects, heart, aging, H599
Epinephrine
cardiovascular and endocrine systems and, fetus (sheep), H734
stimulation with, individual vessels in tenuissimus muscle, H631
Erythrocytes
neuraminidase-treated, sequestration of, H1167
transport, Fahraeus and Fahraeus-Lindqvist effects, H238
velocity
hemodilution effects, H411
oxygen transport and, striated muscle (hamster), H331
5′-*N*-Ethylcarboxamidoadenosine, handling, interstitia of cremaster muscle, H369
Euglycemic-hyperinsulinemic clamp, adenosine effects, myocardium, H970
Exercise
asynchrony effects, myocardial relaxation, awake state, H817
feeding and, cardiac energetics during aging, H599
gracilis muscle, oxygen tension of individual fibers, H1179
heart rate recovery after, age and training status effects, H340
static, hypertension and, H592
training
age and, heart rate recovery and, H340
high-intensity, vascular transport capacity and, hindquarters, H274

F

Feedback, electronic device, arterial pressure control, H187
Feeding
diet and exercise, aging and, cardiac performance, H599
dietary fish oil, cardiac function and, H494
Femoral vascular bed, postsynaptic adrenoceptor-mediated vasoconstriction, H984
Fetus: *see also* Pregnancy
norepinephrine effects, cardiovascular and endocrine systems (sheep), H734
oxygen, pulmonary vascular response to (lamb), H532
preterm, developmental changes in cerebral blood flow (lamb), H52
pulmonary circulation, FPL 57231 and (sheep), H120
Fish oil, dietary, cardiac function and, H494
Flow
collateral
dobutamine effects, H855
risk area size and location, H473
coronary
regulation, adenosine role in, H1125
regulation, adenosine and, H207
vascular, capacity, high-intensity exercise training and, hindquarters, H274
Fluid
cerebrospinal: *see* Cerebrospinal fluid
interstitial, left ventricular, adenosine in, H207
transcapillary exchange, microvascular control (bat), H772
Fluorocarbons
exchange, cerebral blood flow after, H719
perfusion, heart, albumin effects, H1105
fMLP: *see N*-Formyl-L-methionyl-L-leucyl-L-phenylalanine
N-Formyl-L-methionyl-L-leucyl-L-phenylalanine, coronary vasoconstriction, myocardial ischemia and, H481
Fourier analysis, left ventricular cavity shape change, site of regional ischemia and, H547
FPL 57231, pulmonary circulation and, fetus (sheep), H120
Frank-Starling mechanism, wall shear rate, arterioles, H1059

G

GABA: *see* γ-Aminobutyric acid
Glucose
mechanisms of protection, reperfusion-induced arrhythmias, H862
uptake, insulin-stimulated, adenosine effects, myocardial, H970
use, potassium depletion and, H250
Glutamic acid, depressor neuron action and, rostral medulla, H686
Glutathione, interstitial transudate, heart, H785
Glycocalyx, microvascular endothelium, albumin binding to, H425
Glycolysis, aging, exercise and diet effects, heart, H599
Glycosides, cardiac, neurogenic vasoactive properties of, H148

G protein, direct gating, ion channels, H401
Gracilis muscle
  ouabain, neurogenic vasoactive properties, H148
  phospholipid peroxidation products in, H578
  working, oxygen pressure in individual fibers, H1179
Guanosine monophosphate, cyclic, vascular relaxation and, hypertension, H163
Guanosine triphosphate, binding protein, atrial potassium channels (chick, rat, guinea pig), H1200, H1224

H

Heart
  adaptations, asynchrony effects, rest and exercise, awake state, H817
  adult and newborn, different ATP-catabolism, H1091
  aging, exercise and feeding effects, H599
  arteriolar density, embolization and, microspheres, H636
  blood flow and metabolite content, spatial heterogeneity, H344
  control, ouabain treatment and, H313
  delayed rectifier channel (chick), H192
  failure, experimental, peripheral sympathetic vasoconstriction and, H727
  function
    bacterial shock and, H558
    dietary fish oil and, H494
  gap junction channel activity, embryonic ventricle cells (chick), H170
  inosine and adenosine, interstitial transudate concentration, H1125
  inotropism, end-systolic pressure-volume relations and, H664
  inotropy and gap junction conductance, cardiac myocytes, H1206
  interstitial transudate, cellular markers, H785
  ischemic, total left ventricular work, H894
  isolated working apparatus, triiodothyronine effects, chronic diabetes, H265
  local hemodilution, coronary hemodynamics during, H525
  oxygen consumption, low coronary perfusion effects, H292
  perfluorochemical-perfused, albumin effects, H1105
  power matching, optimal external efficiency, H279
  reperfusion-induced arrhythmias, glucose and mannitol, H862
  rise in resting tension, hypoxia and calcium, H678
  sinoatrial valve, right atrium (chicken), H584
  sodium currents, scorpion toxin effects, H443
  transmural electrodes, fabrication technique, H804
  valvular disease
    mitral regurgitation, hypertrophy in, H1034
    severe pressure overload, H1099
  venular endothelial cells, H1211
Heart atria, right, sinoatrial valve activation (chicken), H584
Heart cells: *see also* Myocytes
  aggregates, phase-locked rhythms (chick), H1
  contractile properties, H59
  embryo, reoxygenation-induced calcium overload (chick), H1133
  β-receptors, acidosis effects (chick), H20
Heart-lung preparation, coronary vascular permeability, blood histamine levels, H912
Heart rate
  adrenoceptor-mediated effects on, H199
  changes, sleep-wake cycle, computer analysis, H217
  evaluation, blood pressure monitoring, H377
  improved techniques for monitoring, H181
  integration of sympathetic neural effects, AV conduction, H651
  neuropeptide Y injection and, posterior hypothalamic nucleus, H879
  recovery, after exercise, age and training effects, H340
  regulation, area postrema and, H963
  vasopressin-mediated bradycardia, median preoptic nucleus in, H1172
Heart ventricles
  embryonic, delayed rectifier potassium current (chick), H192
  fibrillation, glucose and mannitol, H862
  function
    afterload resistance effects, H658
    regional ischemia, H894
Heart ventricles, left
  afterload, optimal matching, H1051
  blood flow, aortic pressure reduction and, H361
  cavity shape change, site of regional ischemia and, H547
  end-systolic pressure-volume relations, model, H1113
  function
    chronic endotoxemia (swine), H324
    mitral regurgitation, hypertrophy in, H1034
  interstitial fluid, adenosine, during catecholamine stimulation, H207
  negative work, oxygen-saving effect, H34
  performance, thyroid state effects, H81
  power matching, arterial load, H279
  septal-lateral dimension, measurement method, H801
  wall, regional curvature radius, H1010
  wall ischemia, functional consequences, H1065
Heart ventricles, right
  hypertrophy: *see* Hypertrophy
  pressure, volume and, determination, H622
  volume measurement, H619
Heat, stress, environmental, vasoconstrictor systems and (baboon), H11
Hematocrit
  blood flow, cerebral oxygen extraction and, H156
  coronary, local hemodilution, H525
  microcirculatory, hemodilution effects, H411
  norepinephrine effects, fetus (sheep), H734
  tube, red blood cell suspensions, H238
Hemodilution
  local, coronary hemodynamics during, heart, H525
  oxygen transport and, striated muscle (hamster), H331
  skin microcirculation and, H411
Hemorrhage
  adrenergic-prostanoid control, newborn (pig), H671
  cardiovascular and hormonal response, awake state, H947
  central blood volume and pressure, awake state (monkey), H693
  vascular pressure-volume relations, measurement with acetylcholine, H115
Hemostasis, primary, platelet-activating factor and, H1218
Histamine
  blood levels, coronary vascular permeability and, H912
  dilation, pial arteries, newborn (pig), H1023
  neuropeptide Y injections and, blood pressure, H879
Hormonal response, hemorrhage, awake state, H947
Hydraulic conductance, single-vessel, oxygen modulation of, H317
5-Hydroxytryptamine: *see* Serotonin
Hypercapnia
  arterial, vasomotion in cerebral microcirculation, awake state, H67
  opioid modulation of catecholamines, awake state, H72
Hypercarbia, cerebral oxygen extraction, blood flow response to hematocrit, H156
Hyperemia
  coronary functional, norepinephrine-induced, adenosine deaminase effects, H417
  reactive, endothelial recovery after, H1081
Hypertension
  circulating inotropic factor in, H230
  genetic, cerebral artery vasomotion, H28
  hypoxic pulmonary, vascular changes and, angiotensin II effects, H500
  left atrial, lung lymph flow, hypoxia effects, newborn (lamb), H487
  norepinephrine release, paraventricular hypothalamic nucleus, H993
  pulmonary, monocrotaline pyrrole and, H258
  response to acute and chronic static exercise, H592
  vascular relaxation, cGMP and, H163
  venous, albumin equilibration, skin and lymph, H89
Hyperthyroidism, venous compliance, left ventricular performance and, H81
Hypertrophy
  pressure overload, skinned myocardium, H517
  right ventricular, after reversal of pressure overload, H1099
  volume overload, mitral regurgitation, closed-chest model, H1034
Hypocarbia, cerebral oxygen extraction, blood flow response to hematocrit, H156
Hypoperfusion, pulmonary vasoregulation after, awake state, H976
Hypotension
  aortic pressure, left ventricular blood flow distribution and, H361
  cerebral blood flow, adrenergic-prostanoid control, newborn (pig), H671
  posthemorrhage, baroreflex compensation for, H1074

Hypothalamic nucleus, posterior, neuropeptide Y injection effects on blood pressure, H879
Hypothermia, different ATP-catabolism, adult and newborn hearts, H1091
Hypothyroidism, venous compliance, left ventricular performance and, H81
Hypoxemia, opioid modulation of catecholamines, awake state, H72
Hypoxia
  adenosine release during, aortic endothelial cells (pig), H223
  calcium and, resting tension, heart, H678
  calcium flux, during reoxygenation, heart cells, embryo (chick), H1133
  cellular markers, interstitial transudate, heart, H785
  global myocardial, coronary vasodilation, adenosine deaminase in (guinea pig), H1004
  hydraulic conductance and, single-vessel, H317
  hypoxic, chemoreceptor control, pituitary blood flow, H742
  intermittent, structural vascular adaptation and, embryo (chick), H1194
  lung lymph flow and, newborns with left atrial hypertension (lamb), H487
  pulmonary hypertension, angiotensin II effects, H500

I

Imipramine, serotonin extraction and, myocardium, H570
Impedance, characteristic, systemic arterial bed, model, H609
Infarction
  myocardial
    dobutamine effects, H855
    risk area size and location, H473
Inosine, interstitial transudate concentration, heart, H1125
Inotropic factor, humoral, hypertension, H230
Insulin, glucose uptake stimulated by, adenosine effects, myocardial, H970
Intestines
  afferents, cardiovascular function and, H354
  norepinephrine release, H1187
Iodoacetate, adenosine release and, aortic endothelial cells (pig), H223
Ionic channels, direct G protein gating, H401
Ischemia
  anterior and posterior wall, left ventricles, H1065
  calcium flux, during reoxygenation, heart cells, embryo (chick), H1133
  cellular markers, interstitial transudate, heart, H785
  coronary, risk area size and location, H473
  muscle, leukocyte depletion effects on vascular injury, H823
  myocardial, fMLP effects, H481
  newborn heart, ATP-catabolism, H1091
  regional, left ventricular cavity shape change and, H547
  reversible, recovery of function, awake state, H102
  subendocardial, aortic pressure and blood flow distribution, left ventricle, H361
Ischemia-reperfusion injury, improvement, ATP-magnesium-chloride pretreatment, H702
Isoproterenol
  cardiac function and, H494
  inotropy and gap junction conductance, cardiac myocytes, H1206
  stimulation with, individual vessels in tenuissimus muscle, H631
  triiodothyronine effects, myocardial dysfunction, chronic diabetes, H265

J

Junction
  gap
    cardiac, embryonic ventricle cells (chick), H170
    inotropy and, cardiac myocytes, H1206

K

Ketanserin
  extraction, myocardium, H570
  serotonin effects and, blood flow, finger, H889
Kidney, function, opioids in respiratory failure and, awake state, H72
Kininase II, vascular actions of bradykinin and, H1042

L

Leukocytes, depletion, skeletal muscle ischemia and, H823
Leukotriene D_4, receptor: *see* Receptors
Lidocaine, action potentials and, ventricular myocytes, H1157
Lipids, peroxidation products, skeletal muscle, H578
Liver
  circulation: *see* Circulation
  neuraminidase-treated erythrocytes, sequestration of, H1167
Load, arterial, power matching, heart, H279
Lung
  injury, monocrotaline pyrrole and, H258
  lymph, endotoxin administration (sheep), H833
  lymph flow, hypoxia effects, newborns with left atrial hypertension (lamb), H487
  neuraminidase-treated erythrocytes, sequestration of, H1167
Lymph, hindpaw, equilibration of albumin in, H89

M

Magnesium-chloride, ATP and, pretreatment, ischemia-reperfusion injury, H702
Mannitol, mechanisms of protection, reperfusion-induced arrhythmias, H862
Marker dyes, interstitial transudate, heart, H785
Medulla oblongata, ventrolateral, GABA receptors, depressor neuron effects, H686
Mesenteric artery, vasomotor activity, AP_3A and AP_4A, H828
Mesentery, capillary permeability, protein size effects (frog), H304
Methemoglobin, cerebral oxygen extraction, blood flow response to hematocrit, H156
Microcirculation: *see also* Blood flow; Circulation
  cerebral, vasomotion in, awake state, H67
  cutaneous, capillary pressure and (bat), H772
  gracilis muscle, oxygen tension of individual fibers, H1179
  individual vessels, tenuissimus muscle, H631
  intermittent hypoxia effects, vascular adaptation, embryo (chick), H1194
  oxygen transport and, striated muscle (hamster), H331
  perfluorochemical-perfused heart, albumin effects, H1105
  skin, hemodilution effects, H411
  wall shear rate, arterioles, H1059
Microscopy
  fluorescence, protein size effects on permeability, mesentery (frog), H304
  intravital, wall shear rate in arterioles, H1059
Microspheres
  arteriolar density and embolization, myocardium, H636
  fluorocarbon-for-blood exchange, regional cerebral blood flow and, H719
  neuraminidase-treated erythrocytes, sequestration of, H1167
  radiolabeled
    aortic pressure and blood flow distribution, left ventricle, H361
    cerebral blood flow, fetus and newborn (lamb), H52
    coronary hemodynamics during local hemodilution, H525
Microvascular endothelium, albumin binding specific to, H425
Microvasculature, mesenteric, hydraulic conductance, oxygen modulation of, H317
Models
  cardiopulmonary response, endotoxin administration (sheep), H833
  closed-chest, mitral regurgitation, hypertrophy in, H1034
  end-systolic pressure-volume relations, left ventricular, H1113
  mathematical, vascular resistance in arteriolar networks, sartorius muscle, H1149
  microvascular exchange, interstitial volume regulation and, H384
  serotonin extraction, myocardium, H570
  systemic arterial bed, H609
Monocrotaline pyrrole, pulmonary injury and, H258
Muscimol, depressor neuron action and, rostral medulla, H686
Muscle, striated, oxygen transport, hemodilution effects (hamster), H331
Muscle, heart, pressure overload changes, species differences, H517
Muscle, skeletal
  arteriolar network, response to sympathetic nerve stimulation, H919
  microvascular exchange, simulation of, model, H384
  phospholipid peroxidation products, H578
  postischemic, leukocyte depletion, H823

Muscle, skeletal, (*continued*)
sympathetic escape, tissue oxygen during, H929
Muscle, smooth
aortic, stimulation, myoplasmic calcium-force relations, H840
cholinergic neurotransmission, corpus cavernosum, H459
intrapulmonary artery, excitatory neurotransmission, H1142
Myeloperoxidase
endotoxemia, neutrophil activation and, H1017
ischemia-reperfusion injury, H702
Myocardium
arteriolar density, embolization and, microspheres, H636
collateral conductance, nitroglycerin effects, awake state, H751
contractility, chronic endotoxemia and (swine), H324
contraction
during ischemia, H894
end-systolic pressure-volume relations and, H664
dysfunction, chronic diabetes, triiodothyronine effects, H265
edema, blood histamine levels and, H912
function, bacterial shock and, H558
global hypoxia, coronary vasodilation, adenosine deaminase effects (guinea pig), H1004
glucose uptake, insulin-stimulated, adenosine effects, H970
infarction: *see* Infarction
metabolites, spatial heterogeneity, H344
relaxation, asynchrony effects, rest and exercise, awake state, H817
serotonin extraction, H570
skinned, pressure overload in, H517
stunned, postischemic dysfunction, H102
Myocytes: *see also* Heart cells
cardiac
contractile properties, H59
dihydropyridine receptors, H140
inotropy and gap junctional conductance, H1206
ventricular
sodium currents, scorpion toxin effects, H443
tetrodotoxin and lidocaine effects on action potentials, H1157
Myoglobin, intracellular oxygen tension, working gracilis muscle, H1179

N

Naloxone, respiratory failure, awake state, H72
Necrosis, myocardial, dobutamine effects, H855
Neovascularization, vasa vasorum regrowth, H126
Neuraminidase, erythrocytes treated with, sequestration of, H1167
Neuropeptide Y, blood pressure and, posterior hypothalamic nucleus, H879
Neurotransmission
adrenergic, cerebral blood flow, hypotension, newborn (pig), H671
cholinergic, corpus cavernosum, H459, H468
excitatory, intrapulmonary artery, H1142
Neutrophils
activation, endotoxemia and, H1017
vascular injury, skeletal muscle, H823
Newborn
heart, different ATP-catabolism, H1091
left atrial hypertension, lung lymph flow, hypoxia effects (lamb), H487
pial arteries, histamine dilation (pig), H1023
Nitroglycerin, collateral conductance and, myocardial, awake state, H751
Nitroprusside, adenosine deaminase and, coronary functional hyperemia, H417
Noradrenergic nerve
central, norepinephrine release, hypertension, H993
noncholinergic, transmission, corpus cavernosum, H459
Norepinephrine
aortic smooth muscle stimulation, myoplasmic calcium-force relations, H840
cardiovascular and endocrine systems and, fetus (sheep), H734
coronary functional hyperemia induced by, adenosine deaminase effects, H417
impaired sympathetic vasoconstriction and, experimental heart failure, H727
postsynaptic adrenoceptor-mediated vasoconstriction, H984
release
endothelium inhibition of, adrenergic nerves of carotid artery, H871
paraventricular hypothalamic nucleus, hypertension, H993
perfused intestine, H1187
response, hypertension, H230
venous resistance and, hepatic, H452

O

Octanoate, triiodothyronine effects, myocardial dysfunction, chronic diabetes, H265
Opioids, endogenous, respiratory failure, awake state, H72
Ouabain
neurogenic vasoactive properties of, H148
treatment, atrioventricular conduction in, H313
Overload, calcium, during reoxygenation, heart cells, embryo (chick), H1133
Oxygen
base-line extraction influences, cerebral blood flow response to hematocrit, H156
consumption
aging and, cardiac performance, H599
low coronary perfusion and, heart, H292
myocardial, adenosine deaminase effects (guinea pig), H1004
myocardial, adenosine deaminase effects, H417
myocardial, power matching, H279
modulation, single-vessel hydraulic conductance, H317
pressure
individual fibers, working gracilis muscle, H1179
tissue, sympathetic escape in skeletal muscle, H929
pulmonary vascular response to, fetus (lamb), H532
transport
cerebral blood flow, fetus and newborn (lamb), H52
fluorocarbon-for-blood exchange and, H719
hemodilution effects, striated muscle (hamster), H331
vascular wall, sympathetic escape in skeletal muscle, H929
Oxygen gradient, transcapillary, working gracilis muscle, H1179
Oxygen radicals
importance, *E. coli* endotoxemia, H954
vascular injury, skeletal muscle, H823

P

Pacing
atrial
asynchrony effects, rest and exercise, awake state, H817
integration of heart rate and sympathetic neural effects, H651
Papaverine, albumin equilibration, skin and lymph, hindpaw, H89
Parasympathetic-sympathetic interaction, atrioventricular conduction, ouabain treatment and, H313
Paraventricular hypothalamic nucleus, norepinephrine release from, hypertension and, H993
PEEP: *see* Pressure, positive end-expiratory
Penis, erection, cholinergic neurotransmission role in, H459, H468
Permeability
capillary
isogravimetric, ischemia-reperfusion injury, H702
perfluorochemical perfusion, albumin effects, H1105
coronary vascular, pathological blood histamine level effects, H912
increased capillary, skin and lymph, hindpaw, H89
pulmonary vascular, protein, platelet role in (sheep), H763
single capillary, protein size effects (frog), H304
Phentolamine, norepinephrine release and, intestine, H1187
Phenylephrine
autoregulation, vascular resistance and, hypertension, H709
blood flow and, finger, H889
cardiac function and, H494
N^6-Phenylisopropyladenosine, handling, interstitia of cremaster muscle, H369
Phospholipids
cardiac function and, H494
peroxidation, skeletal muscle, H578
Pial arterioles, sciatic nerve stimulation effects, H133
Pial artery, histamine dilation, through prostanoid production, newborn (pig), H1023
Piezoelectric crystals, measurement, septal-lateral dimensions of left ventricle, H801
Plasma, concentration, ANF actions and, awake state (sheep), H811
Platelet-activating factor, role in primary hemostasis, H1218
Platelets, protein permeability and, pulmonary vascular (sheep), H763

Potassium
depletion, cerebral blood flow in, H250
spontaneous vasomotion, cerebral artery, genetic hypertension, H28
Potassium channels, atrial, α-subunit activation (chick, rat, guinea pig), H1200, H1224
Potassium chloride, depolarization, myoplasmic calcium-force relations, H840
Potassium current, delayed rectifier, heart ventricle, embryonic (chick), H192
Potentials
action, tetrodotoxin and lidocaine effects, ventricular myocytes, H1157
membrane, neurotransmission, pulmonary artery, H1142
Prazosin, blood flow and, finger, H889
Pregnancy: *see also* Fetus
ANP vascular binding sites, vasorelaxation and, H1027
Preoptic nucleus, median, vasopressin-mediated bradycardia and, H1172
Pressure: *see also* Blood pressure
aortic, reduction, blood flow and, left ventricle, H361
arterial
area postrema and, H963
central control, rostral medulla, H686
control with electronic negative feedback device, H187
neuropeptide Y injections and, posterior hypothalamic nucleus, H879
norepinephrine effects, fetus (sheep), H734
capillary
high-intensity exercise training and, hindquarters, H274
isogravimetric, ischemia-reperfusion injury, H702
isogravimetric, leukocyte depletion, muscle ischemia, H823
microvascular control, pressure increases and (bat), H772
collateral waterfall, ventricular preload and, fetus (lamb), H532
constant perfusion, myocardial, adenosine deaminase effects (guinea pig), H1004
mean circulatory filling
acetylcholine measurement, H115
thyroid state effects, H81
overload changes
cardiac skinned-fiber mechanics, species differences, H517
reversal, right ventricular hypertrophy after, H1099
portal, hepatic venous resistance and, H452
positive end-expiratory, ventilation, end-systolic pressure-volume relations during, H664
pulsatile, posthemorrhage hypotension, H1074
ventricular, determination, H622
Pressure-diameter relations, end-systolic, chronic endotoxemia and (swine), H324
Pressure-flow relations, autoregulation, vascular resistance and, hypertension, H709
Pressure-volume relations
end-systolic
left ventricular, identifiability, H1113
ventilation with PEEP, H664
left ventricular work, ischemic heart, H894
negative work, oxygen-saving effects, left ventricle, H34
oxygen consumption, low coronary perfusion, H292
total vascular, measurement with acetylcholine, H115
Propranolol, low coronary perfusion and, oxygen consumption in, H292
Prostaglandins
nonhypotensive endotoxemia and, awake state, H509
production, histamine dilation of pial arteries, newborn (pig), H1023
pulmonary hypertension and, H500
Prostanoids
production, histamine dilation of pial arteries, newborn (pig), H1023
vascular control, newborn (pig), H671
Protein
albumin binding and, microvascular endothelium, H425
lymph-to-plasma ratio, kininase II, H1042
plasma concentration, norepinephrine effects, fetus (sheep), H734
pulmonary vascular permeability to, platelet role in (sheep), H763
size effects, permeability and (frog), H304
transport, interstitial fluid volume and, model, H384
Pulmonary artery
catheterization, improved techniques for monitoring, H181
excitatory neurotransmission, nonadrenergic and noncholinergic, H1142
severe pressure overload, right ventricular hypertrophy after reversal, H1099
Pulmonic stenosis, AVP and angiotensin, cardiovascular effects, H438
Pump, sodium-potassium, humoral inhibitor of, hypertension, H230
Purine, release, adult and newborn hearts, H1091
Purinoceptors: *see* Receptors
Pyrrolizidine alkaloid, pulmonary injury and, H258

R

Receptors
adrenoceptor
cardiac responsiveness, dietary fish oil, H494
effects mediated by, H199
α-adrenoceptor, norepinephrine release, intestine, H1187
β-adrenoceptor
cardiac, acidosis effects (chick), H20
individual vessels in tenuissimus muscle, H631
ANP vascular binding sites, pregnancy, H1027
baroreceptor
cardiopulmonary, awake state (monkey), H693
carotid sinus, neurogenic vasoactive properties, H148
cardiopulmonary, chronic sodium depletion and, H905
chemoreceptors, peripheral, pituitary blood flow and, H742
dihydropyridine, cardiac sodium channels, H140
GABA, depressor neuron effects, rostral medulla, H686
G protein, direct gating of ion channels, H401
leukotriene D_4, specificity of FPL 57231 for, pulmonary circulation, fetus (sheep), H120
muscarinic atrial, α-subunit activation of potassium channels (chick, rat, guinea pig), 1224, H1200
platelet-activating factor antagonist, primary hemostasis and, H1218
purinoceptors, neurotransmission, pulmonary artery, H1142
Red blood cells: *see* Erythrocytes
Reflexes
baroreflex
area postrema and, H963
blood pressure monitoring, H377
compensation for posthemorrhage hypotension, H1074
modulation by cardiopulmonary receptors, during sodium depletion, H905
solitary nucleus, H756
vasopressin-mediated bradycardia, H1172
cardiopulmonary, awake state (monkey), H693
cardiovascular
after hypoperfusion, awake state, H976
intestinal afferents and, H354
Renin
nonhypotensive endotoxemia and, awake state, H509
norepinephrine effects, fetus (sheep), H734
plasma, cardiovascular and hormonal response, H947
Renin-angiotensin system
cardiovascular effects, pulmonic stenosis, H438
dehydration, leg vasodilation and (baboon), H11
Resistance
β-adrenergic control, individual vessels in tenuissimus muscle, H631
afterload, end-systolic pressure-thickness relations, H658
arterial, ventricle-load optimization, H1051
collateral, risk area size and location, heart, H473
hepatic venous, portal pressure and, H452
internal, end-systolic pressure-volume relations, H1113
intravascular and extravascular, coronary collaterals, ventricular preload effects, H532
pulmonary vascular
FPL 57231 and, fetus (sheep), H120
hypoxia effects, newborns with left atrial hypertension (lamb), H487
vascular
distribution in arteriolar networks of sartorius muscle, H1149
humoral inotropic factor, hypertension, H230
intermittent hypoxia effects, embryo (chick), H1194
neurogenic control, H148
vasoconstriction and, hypertension, H709
Resistance arteries, vasomotion, genetic hypertension, H28

Respiration, positive pressure, end-systolic pressure-volume relations and, H664
Rheology, wall shear rate, arterioles, H1059
Rhythms, phase-locked, heart cell aggregates (chick), H1
Ryanodine, coupling calcium and, single ventricular cell, H937

S

Sarcolemma, calcium, single ventricular cell, H937
Sarcoplasmic reticulum, coupling calcium, single ventricular cell, H937
Sartorius muscle, terminal arteriolar networks, distribution of vascular resistance, H1149
Sciatic nerve, stimulation effects, pial arterioles, H133
Scorpion venom, sodium currents and, heart, H443
Sepsis, bacterial, myocardial function and, H558
Septic shock: *see* Shock
Serotonin
  exchange, myocardial, H570
  vasoconstriction, during reflex sympathetic response to cooling, fingers, H889
Shock
  bacterial, myocardial function and, H558
  endotoxic, left ventricular function and (swine), H324
  septic, improved techniques for monitoring, H181
Sinoatrial valve, activation, right atrium (chicken), H584
Sinus, spontaneous rhythm, asynchrony effects, rest and exercise, awake state, H817
Skin
  hindpaw, equilibration of albumin in, H89
  microcirculation: *see* Microcirculation
Sleep, paradoxical, cardiovascular changes and, computer analysis, H217
Sleep-wake cycle, cardiovascular changes during, computer analysis, H217
Sodium
  consumption, static exercise effects, H592
  depletion, modulation by cardiopulmonary receptors, H905
Sodium channels, cardiac, dihydropyridine receptors on, H140
Sodium currents, cardiac, scorpion toxin effects, H443
Sodium-cyanide, adenosine release and, aortic endothelial cells (pig), H223
Solitary nucleus, α_1 and α_2 receptors, electrophysiology, H756
Somatosensory cortex, sciatic nerve stimulation, pial arterioles, H133
Spatial heterogeneity, blood flow and metabolite content, heart, H344
Species differences, cardiac skinned-fiber mechanics, pressure overload changes, H517
Spleen, neuraminidase-treated erythrocytes, sequestration of, H1167
Stereoisomers, dihydropyridine, cardiac sodium channels, H140
α-Subunit
  activation, atrial potassium channels (chick, rat, guinea pig), H1200, H1224
  ion channels, direct G protein gating, H401
Superoxide dismutase, importance, *E. coli* endotoxemia, H954
Superoxide radical
  endotoxemia, neutrophil activation and, H1017
  ischemia-reperfusion injury, H702
Sympathetic nerve
  activity
    renal, rostral GABA receptors and, H686
    vasopressin-mediated bradycardia, H1172
  response to stimulation, arteriolar network of skeletal muscle, H919
  stimulation, postsynaptic adrenoceptor-mediated vasoconstriction, H984
Sympathetic nervous system
  dehydration, leg vasodilation and (baboon), H11
  norepinephrine release and, intestine, H1187
Sympathetic response, reflex, fingers, serotonergic vasoconstriction during, H889
Sympathetic tone, heart rate and, AV conduction, H651
Sympathoinhibitory neurons, GABA receptors and, rostral medulla, H686
Systolic wall, thickening, afterload resistance effects, H658

T

Tachycardia, vagal baroreflex modulation, chronic sodium depletion, H905
Tension-length loop, regional curvature radius, left ventricular wall, H1010
Tenuissimus muscle, individual vessels, β-adrenergic control, H631
Tetrodotoxin, action potentials and, ventricular myocytes, H1157
Thallium, scintigraphy, fMLP-induced coronary spasm, H481
Thrombocytopenia, protein permeability, platelets and (sheep), H763
Thyroid state, venous compliance, left ventricular performance and, H81
Toxin, scorpion, cardiac sodium currents and, H443
Training: *see* Exercise
Triiodothyronine, myocardial dysfunction and, chronic diabetes, H265

V

Vasa vasorum, regrowth, blood flow through new microvessels, H126
Vascular adaptation, intermittent hypoxia effects, embryo (chick), H1194
Vascular bed, pressor and intestinal responses, vasopressin, after cholinergic blockade, H45
Vasoconstriction
  coronary, fMLP effects, H481
  hypoxic pulmonary
    angiotensin II effects, H500
    oxygen and, fetus (lamb), H532
  peripheral sympathetic, experimental heart failure effects, H727
  postsynaptic adrenoceptor-mediated, coronary and femoral vascular beds, H984
  serotonergic, reflex sympathetic response to cooling, fingers, H889
  vascular resistance and, hypertension, H709
Vasoconstrictors, leg vasodilation and, during heating and dehydration (baboon), H11
Vasodilation
  coronary
    global myocardial hypoxia (guinea pig), H1004
    norepinephrine-induced, adenosine deaminase effects, H417
  histamine, pial arteries, newborn (pig), H1023
  leg, vasoconstrictor effects, during heating and dehydration (baboon), H11
  terminal arteriolar networks, sartorius muscle, H1149
Vasomotion
  cerebral microcirculation, awake state, H67
  spontaneous, cerebral artery, genetic hypertension and, H28
Vasopressin
  arginine
    angiotensin and, cardiovascular effects, pulmonic stenosis, H438
    norepinephrine effects, fetus (sheep), H734
  bradycardia mediated by, role of median preoptic area, H1172
  dehydration, leg vasodilation and (baboon), H11
  peripheral chemoreceptor control, pituitary blood flow, H742
  vascular bed responses to, after cholinergic blockade, H45
Vasopressin antagonist, hemorrhage, cardiovascular and hormonal response, H947
Vasoregulation, pulmonary, after hypoperfusion, awake state, H976
Vasorelaxation, vascular binding sites and, ANP, pregnancy, H1027
Ventilation, with PEEP, end-systolic pressure-volume relations and, H664
Ventricular cells
  embryonic, cardiac gap junction channel activity (chick), H170
  isolated, contractile properties, H59
  single, coupling calcium, H937
Verapamil, vasomotion, cerebral microcirculation, awake state, H67
Volume: *see also* Blood volume
  interstitial, regulation, microvascular exchange and, model, H384
  red blood cell, Fahraeus and Fahraeus-Lindqvist effects, H238
  stroke
    end-systolic pressure-volume relations and, H664
    ventricle-load optimization, H1051
  ventricular
    determination, H622
    measurement, H619

W

Water, deprivation, vasoconstrictor system effects on leg vasodilation (baboon), H11
Work, negative, oxygen-saving effect, left ventricle, H34

X

Xanthine oxidase, different ATP-catabolism, adult and newborn hearts, H1091

Y

Yohimbine, blood flow and, finger, H889

Author Index to Volume 23

Achterberg, P.W., H1091
Adachi, H., H1081
Adair, T.H., H1194
Adams, H. R., H954
Adamski, S.W., H1042
Adamson, R. H., H304
Albert, M., H438
Althaus, J. S., H72
Anderson, A. C., H905
Anderson, R. H., H187
Arfors, K.-E., H631
Armstead, W.M., H671, H1023
Armstrong, M. L., H126
Arts, T., H795, H1059
Aubert, J. F., H509
Aversano, T., H658
Azadzoi, K., H459

Baan, J., H1113
Bache, R. J., H984
Baker, R., H120
Barbee, R. W., H265
Barra, J. G., H664
Bassett, D. R., H340
Bassingthwaighte, J. B., H570
Beasley, D. G., H671
Becker, L. C., H658
Beckeringh, J. J., H199
Beinfeld, M. C., H879
Bell, D. R., H89
Berne, R. M., H207, H223
Bernier, M., H862
Bert, J. L., H384
Bertinieri, G., H377
Biber, B., H181
Birnbaumer, L., H401, H1200, 1224
Blanco, R., H459, H468
Bland, R. D., H487
Blessing, W. W., H686
Boegehold, M. A., H919, H929
Boheler, K. R., H354
Bolli, R., H102
Booth, D. C., H481
Borghetti, A., H840
Borgström, P., H631
Bowen, B. D., H384
Brace, R. A., H734
Brackett, D. J., H181
Brashers, V. L., H72
Brazzamano, S., H751
Breit, G. A., H411
Breitbart, G. J., H664
Brennaman, B., H163
Brinck-Johnsen, T., H947
Brodde, O.-E., H199
Broughton, A., H361
Brown, A.M., H140, H401, H443, H1200, H1224
Bruner, L. H., H258
Brunner, H. R., H509
Brunner, M.J., H1074
Bruschi, G., H840
Bruschi, M. E., H840
Bruschke, A.V.G., H1113
Buckley, D. J., H678
Burhop, K. E., H763
Burnier, M., H509
Burns, A. H., H265
Burt, J.M., H1206
Busija, D.W., H671, H1023
Busse, R., H828

Cannata, J., H52
Carabello, B.A., H1034
Carey, R. M., H72
Carley, W. W., H425
Cassidy, S. S., H622
Cassin, S., H120
Cavallazzi, A., H377
Chan, I. S., H570
Chavez Chavez, R. H., H411
Chen, B. B., H976
Chen, D. G., H984
Cheung, C. Y., H734
Chien, S., H1167
Clapham, D. E., H192, H1224
Clougherty, P. W., H976
Codina, J., H1200, H1224
Coffman, J. D., H889
Coghlan, J. P., H817
Cohen, R. A., H459, H468, H871, H889
Conklin, J. J., H558
Conway, R. S., H344, H532
Cooper, S. M., H473
Cornish, K. G., H693
Crottogini, A. J., H664
Crystal, G. J., H525
Cunningham, M. R., H481
Curry, F. E., H304
Cussen, L., H52

Dai, X-Z., H984
Danner, R. L., H558
Darr, K. C., H340
Daul, A., H199
Davis, M. J., H772
Dawant, B., H1149
Decking, U.K.M., H1125
DeHaan, R. L., H170
De Jong, J.W., H1091
De las Morenas, A., H459
DeMaria, A. N., H481
DeTarnowsky, J. M., H651
DiPiero, A., H163
Di Rienzo, M., H377
Diters, R., H1034
Downey, H. F., H417
Downey, J. M., H855
Duthinh, V., H59
Dziuban, S. W., Jr., H324

Echtenkamp, S. F., H905
Edwards, J. G., H592
Egan, E. A., H542
Elz, J. S., H678
Elzinga, G., H279
Eng, C., H344, H532
Ensunsa, J.L., H1105
Everse, J., H1017

Fagraeus, L., H181
Faraci, F. M., H286
Feige, B. D., H584
Fejes-Tóth, G., H947
Feldman, M. A., H742
Feldman, P. D., H756
Ferguson, W., H542
Ferrari, A. U., H377
Ferraro, N., H727
Fink, M. P., H558
Franzen, D., H344
Freeman, G. L., H801
Frey, M., H727
Friedman, B. J., H481
Futaki, S., H34, H292, H894

Galbusera, M., H1218
Garan, H., H148
Gause, G. E., H120
Gay, R.G., H81, H115
Gayeski, T.E.J., H1179
Genest, J., H1027
Gidday, J. M., H207
Gillespie, M. N., H481
Gilmore, J. P., H693
Glass, L., H1
Goldberg, J. M., H584
Goldfarb, R. D., H324
Goldman, S., H81, H115
Goldstein, I., H459, H468
Goll, H. M., H976
Goto, M., H1010
Goto, Y., H34, H292, H894
Granger, D. N., H702, H823
Granger, H.J., H1211
Graves, W., H547
Greenfield, J. C., Jr., H751
Greenway, C. V., H452
Grega, G.J., H1042
Grisham, M. B., H702, H823, H1017
Guevara, M. R., H1
Gumm, D. C., H473
Gutkowska, J., H1027
Guyton, A.C., H1194

Halpern, W., H28
Hanley, D. F., H742
Harrison, D. G., H473
Hawker, J.R. Jr., H1211
Hayashi, Y, H1081
Hazinski, T. A., H487
Hearse, D. J., H862
Heistad, D. D., H126, H286
Herndon, D. N., H833
Heyndrickx, G. R., H817
Hill, H. E., H207
Hiramatsu, O., H1010
Hiramori, K., H894
Hirt, E., H163
Hock, C. E., H494
Hoit, B.D., H1065
Holahan, M. A., H494
Homcy, C. J., H148
Honig, C.R., H1179
Houser, S. R., H59
Hudak, M. L., H156
Hundley, W. G., H67
Huxley, V. H., H304, H317

Igarashi, Y., H894
Iimura, O., H855
Inoue, T., H1142
Intaglietta, M., H411, H631

Jan, K.-M., H1167
Janssen, H. F., H1017
Jay, M., H481
Johansen, A, H1051
Johnson, K. J., H258
Johnson, P.C., H919, H929, H1149
Johnson, R. L., Jr., H622
Jones, C. E., H417
Jones, M. D., Jr., H156
Juengling, E, H1125

Kagiyama, M., H1010
Kajiya, F., H1010
Kammermeier, H., H785, H1125
Kang, Y. H., H1004
Kannan, M.S., H1142
Kaplan, J. E., H763
Kass, D., H547, H619
Keeton, T.K., H1187
Kim, D., H20
Kimura, R., H833
Kirk, E. S., H532
Kirsch, G.E., H443, H1200, H1224
Klassen, M. G., H937
Kleaveland, J.P., H1034
Ko, K. R., H133
Kochsiek, K., H438
Koehler, R. C., H156
Koller, A., H1149
Kontos, H. A., H67
Korner, P. I., H361
Korthuis, R. J., H274, H702, H823
Krane, R. J., H459, H468
Kunze, D. L., H140
Kuo, L., H331
Kuschinsky, W., H250
Kussmaul, W.G., H1034

Lacombe, J., H217
Laguzzi, R., H217
Laird, J. D., H636
Lancaster, L. D., H81, H115
Langer, G. A., H937
Lanoce, V., H727
Latham, L. B., H72
Lauber, C., H592
Laughlin, M. H., H274, H954
Lautt, W. W., H452
Law, W. R., H970
Lee, K., H324
Lee, P. A., H719
Lee, R. W., H81, H115
Leffler, C.W., H671, H1023
Lerner, M. R., H181
Levasseur, J. E., H67
Lew, W.Y.W., H1065
Lima, J., H547
Lindbom, L., H631
Lindsay, T., H578
Little, W. C., H801
Liu, A., H1149
Livio, M.l, H1218
Lo, S. K., H763

Lockette, W., H163
Loeb, J. M., H651
Logothetis, D. E., H192
Longhurst, J. C., H354
Lopez, J. A., H148
Luhmann, K., H324
Lund, D. D., H187
Lundgren, C. E. G., H542

MacVittie, T. J., H558
Malik, A. B., H763
Mancia, G., H377
Mangiapane, M. L., H963
Marcus, M. L., H473
Margolis, T. I., H20
Marino, P., H547
Maron, M. B., H912
Marsh, J.D., H20, H1133
Martin, D. S., H45
Martin, J. R., H879
Martin, P. J., H313
Maruyama, K., H500
Massik, J., H156
Matsuoka, S., H1010
Matthai, W., H727
Maughan, W. L., H547, H658
Mayhan, W. G., H286
McCulloch, T., H693
McDougall, J. G., H811
McIlroy, M. B., H609
McKay, C. B., H238
McMahon, S., H592
McNeill, J. R., H45
Meininger, C.J., H1211
Meininger, G. A., H709
Meiselman, H. J., H238
Mekhfi, H., H517
Merrill, G. F., H417, H1004
Meunier, J. M., H217
Michel, M. C., H199
Mickle, D. A. G., H578
Miller, E. D., Jr., H72
Mirhashemi, S., H411
Mirro, R., H671, H1023
Mito, K., H1010
Miura, T., H855
Moffett, T. C., H570
Mohrman, D. E., H369
Moises, H. C., H756
Montani, J.-P., H1194
Morgan, B. J., H340
Morigi, M., H1218
Morii, S., H133
Morin, F. C., III, H542
Morkin, E., H81
Mullen, M., H500
Murphy, J.G., H1133
Murray, P. A., H976
Myhre, E.S.P., H1051

Nagasawa, K., H1081
Nakamura, M., H1081
Náray-Fejes-Tóth, A., H947
Natanson, C., H558
Nayler, W. G., H678
Neer, E., H1224
Ngai, A. C., H133
Nieukoop, A.S., H1091
Nishijima, H., H1081
Nosjean, A., H217
Novotny, M. J., H954
Nozawa, T., H34, H292, H894
Nussberger, J., H509
Nyhan, D. P., H976

O'Brodovich, H., H500
O'Connor, W.N., H1099
Ogasawara, Y., H1010
Ogilvie, A., H828
Oliviero, P., H517
Olley, P. M., H500
O'Neill, P. G., H102
Ordway, G. A., H354
Osol, G., H28
Otsuka, Y., H163
Overbeck, H. W., H230
Overton, J. M., H592

Palade, G. E., H425
Palm, D., H199
Paquin, M., H115
Pardini, B. J., H187
Parent, A., H1027
Parkes, D. G., H811
Parrillo, J. E., H558
Patel, K.P., H1172
Pedotti, A., H377
Penkoske, P. A., H804
Pepin, E. B., H592
Piantadosi, C. A., H719
Pichel, R. H., H664
Piene, H., H1051
Pilati, C. F., H912
Pittman, R. N., H331
Pohl, U., H828
Popel, A.S., H1149
Possani, L. D., H443
Pouleur, H., H817
Powell, W. J., Jr., H148
Powers, M. R., H89
Prien, T., H833
Proppe, D. W., H11

Qualy, J. M., H993

Rabinovitch, M., H500
Raj, J. U., H487
Ramanathan, M., H622
Raya, T. E., H81
Raymond, R. M., H970
Redl, H., H833
Reed, R. K., H384
Regolisti, G., H840
Reibel, D. K., H494
Rembert, J. C., H751
Remuzzi, G. H., 1218
Renaldo, G. J., H67
Reneman, R.S., H795, H1059
Rich, T. L., H937
Riedel, G.L., H1187
Riegger, G. A. J., H438
Roberts, R., H102
Romaschin, A. D., H578
Rose, C. E., Jr., H72
Rose, K. Y., H72
Rosenberg, H. C., H500
Roth, R. A., H258
Rousseau, M. F., H817
Rubio, R., H207, H223
Rumsey, W. L., H599

Saenz de Tejada, I., H459, H468
Sagawa, K., H1074
Salata, J.J., H1157
Sandridge, M. P., H72
Schaefer, C. F., H181
Schelling, M.E., H1211
Schiffrin, E.L., H1027
Schlag, G., H833
Schmid, P.G., H1172
Schnitzer, J. E., H425
Schoutsen, B., H1091
Schröck, H., H250
Schwiep, F., H622
Scoggins, B. A., H811
Segel, L.D., H1105
Sexton, W. L., H274
Shepherd, A.P., H1187
Shepherd, R. E., H265
Shrier, A., H1
Shryock, J. C., H223
Simchon, S., H1167
Skoog, K. M., H963
Slaaf, D.W., H1059
Smith, T.W., H1133
Smolich, J. J., H361
Smolik, M. J., H181
Sonnenblick, E. H., H344
Spaan, J. A. E., H636
Spray, D.C., H1206
Starnes, J. W., H599
Stassen, H. G., H636
St-Louis, J., H1027
Stuesse, S. L., H313
Suga, H., H34, H292, H894
Sunagawa, K., H658
Swynghedauw, B., H517
Sylvia, A. L., H719
Szymonowicz, W., H52

Tanaka, N., H34, H292
Tang, Y.-L., H156
Tangleder, G.J., H1059
Targett, R. C., H609
Taylor, A. E., H702
Thomas, D. P., H340
Thompson, S. B., H473
Thornby, J. I., H102
Thornton, R. M., H11
Till, G. O., H258
Timmis, A. D., H148
Tipton, C. M., H592
Tomoike, H., H1081
Toorop, G. P., H279
Traber, D. L., H833
Traber, L. D., H833
Traystman, R. J., H156, H742
Trzeciakowski, J. P., H709
Tsujioka, K., H1010
Tucker, V. L., H317

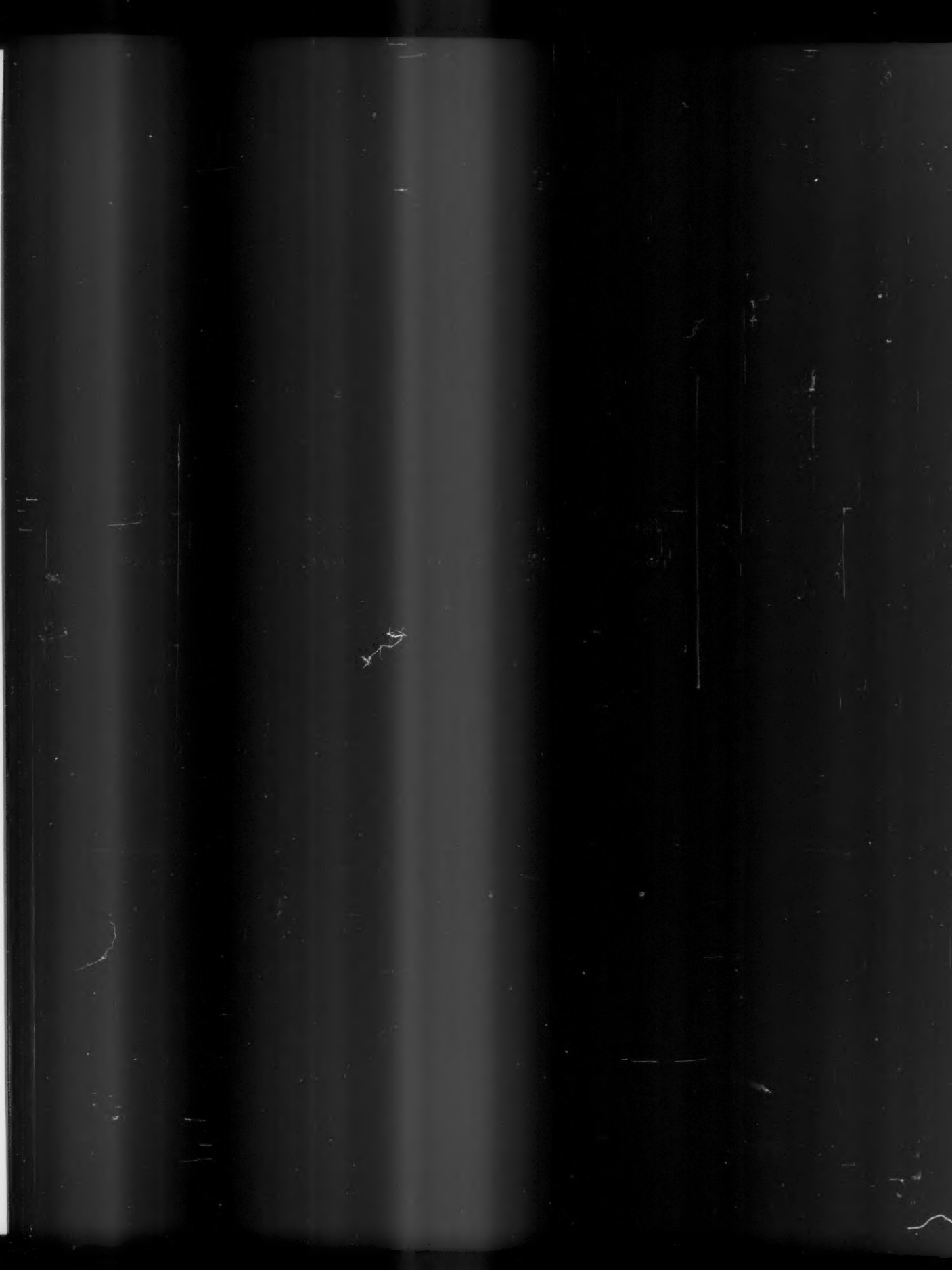
Ubiali, A., H1218
Uenishi, M., H34, H292

Van den Horn, G. J., H279
Van der Linden, L.P., H1113
Van der Velde, E.T., H1113
Van der Zee, H., H324
Van Renterghem, R. J., H795
Van Steenhoven, A. A., H795
Vantrimpont, P. J., H817
Veenstra, R. D., H170
Ventura-Clapier, R., H517
Vigano, G., H1218
Vinciguerra, T., H1034

Wada, Y., H1010
Waeber, B., H509
Walker, A. M., H52
Walker, P. M., H578
Walker, R. I., H558
Wallace, J. R., H89
Wallick, D. W., H313
Wasserstrom, J.A., H1157
Watanabe, N., H417
Watkins, D., H801
Wei, H. M., H1004
Weisbrod, R. M., H871
Weiss, J. L., H547
Weissberg, P. L., H361
Wellstein, A., H199
Westerhof, N., H279
Westfall, T. C., H879, H993
Wienen, W., H785
Wieringa, P. A., H636
Williams, J. K., H126, H286
Willshaw, P., H664
Wilson, D. A., H742
Wilson, J. R., H727
Wilson, M. F., H181
Winn, H. R., H133
Wisenbaugh, T, H1099
Witkowski, F. X., H804
Wotiz, H. H., H468
Wurster, R. D., H187

Yamada, A., H1081
Yamazaki, T., H1074
Yasumura, Y., H34, H292, H894
Yatani, A., H140, H443, H1200, H1224
Yonekura, S., H417
Yoshida, S., H855
Youmans, E. M., H592
Yu, V. Y. H., H52

Zhang, H., H344
Zhu, W.-X., H102
Zimmerman, B. J., H702



American Journal of Physiology:
Heart and Circulatory Physiology

No. 1. JANUARY 1988

Phase-locked rhythms in periodically stimulated heart cell aggregates
M. R. Guevara, A. Shrier, and L. Glass H1

Influence of vasoconstrictor systems on leg vasodilation during heating of dehydrated baboons
R. M. Thornton and D. W. Proppe H11

Mechanism of diminished contractile response to catecholamines during acidosis
J. D. Marsh, T. I. Margolis, and D. Kim H20

Spontaneous vasomotion in pressurized cerebral arteries from genetically hypertensive rats
G. Osol and W. Halpern H28

Oxygen-saving effect of negative work in dog left ventricle
H. Suga, Y. Goto, Y. Yasumura, T. Nozawa, S. Futaki, N. Tanaka, and M. Uenishi H34

Pressor and intestinal vascular bed responses to vasopressin after cholinergic blockade
D. S. Martin and J. R. McNeill H45

Developmental changes in regional and cerebral blood flow in fetal and newborn lambs
W. Szymonowicz, A. M. Walker, L. Cussen, J. Cannata, and V. Y. H. Yu H52

Contractile properties of single isolated feline ventriculocytes
V. Duthinh and S. R. Houser H59

Vasomotion in cerebral microcirculation of awake rabbits
W. G. Hundley, G. J. Renaldo, J. E. Levasseur, and H. A. Kontos H67

Hypoxemia and hypercapnia in conscious dogs: opioid modulation of catecholamines
C. E. Rose, Jr., L. B. Latham, V. L. Brashers, K. Y. Rose, M. P. Sandridge, R. M. Carey, J. S. Althaus, and E. D. Miller, Jr. H72

Effects of thyroid state on venous compliance and left ventricular performance in rats
R. G. Gay, T. E. Raya, L. D. Lancaster, R. W. Lee, E. Morkin, and S. Goldman H81

Initial equilibration of albumin in rabbit hindpaw skin and lymph
M. R. Powers, J. R. Wallace, and D. R. Bell H89

Time course and determinants of recovery of function after reversible ischemia in conscious dogs
R. Bolli, W.-X. Zhu, J. I. Thornby, P. G. O'Neill, and R. Roberts H102

Use of acetylcholine to measure total vascular pressure-volume relationship in dogs
R. W. Lee, L. D. Lancaster, R. G. Gay, M. Paquin, and S. Goldman H115

Specificity of FPL 57231 for leukotriene D_4 receptors in fetal pulmonary circulation
G. E. Gause, R. Baker, and S. Cassin H120

Blood flow through new microvessels: factors that affect regrowth of vasa vasorum
J. K. Williams, M. L. Armstrong, and D. D. Heistad H126

Effect of sciatic nerve stimulation on pial arterioles in rats
A. C. Ngai, K. R. Ko, S. Morii, and H. R. Winn H133

Effects of dihydropyridine calcium channel modulators on cardiac sodium channels
A. Yatani, D. L. Kunze, and A. M. Brown H140

Effect of intracarotid administration of ouabain in dogs
J. A. Lopez, A. D. Timmis, H. Garan, C. J. Homcy, and W. J. Powell, Jr. H148

Base-line O_2 extraction influences cerebral blood flow response to hematocrit
M. L. Hudak, Y.-L. Tang, J. Massik, R. C. Koehler, R. J. Traystman, and M. D. Jones, Jr. H156

Vascular relaxation and cGMP in hypertension
Y. Otsuka, A. DiPiero, E. Hirt, B. Brennaman, and W. Lockette H163

Cardiac gap junction channel activity in embryonic chick ventricle cells
R. D. Veenstra, and R. L. DeHaan H170

SPECIAL COMMUNICATIONS

Improved techniques for cardiovascular monitoring in rats as applied during endotoxemia
B. Biber, C. F. Schaefer, M. J. Smolik, M. R. Lerner, D. J. Brackett, M. F. Wilson, and L. Fagraeus H181

An electronic, negative feedback device to control arterial pressure
B. J. Pardini, D. D. Lund, R. D. Wurster, and R. H. Anderson H187

RAPID COMMUNICATIONS

Delayed rectifier K^+ current in embryonic chick heart ventricle
D. E. Clapham and D. E. Logothetis H192

ANNOUNCEMENTS H198

No. 2. FEBRUARY 1988

Differentiation of β_1- and β_2-adrenoceptor-mediated effects in humans
O.-E. Brodde, A. Daul, A. Wellstein, D. Palm, M. C. Michel, and J. J. Beckeringh H199

Estimates of left ventricular interstitial fluid adenosine during catecholamine stimulation
J. M. Gidday, H. E. Hill, R. Rubio, and R. M. Berne H207

Computer analysis of cardiovascular changes during sleep-wake cycle in Sprague-Dawley rats
J. Lacombe, A. Nosjean, J. M. Meunier, and R. Laguzzi H217

Release of adenosine from pig aortic endothelial cells during hypoxia and metabolic inhibition
J. C. Shryock, R. Rubio, and R. M. Berne H223

Bioassay by cross-perfusion for circulating inotropic factor in hypertension
H. W. Overbeck H230

Osmolality-mediated Fahraeus and Fahraeus-Lindqvist effects for human RBC suspensions
C. B. McKay and H. J. Meiselman H238

Cerebral blood flow, glucose use, and CSF ionic regulation in potassium-depleted rats
H. Schröck and W. Kuschinsky H250

Complement is not involved in monocrotaline pyrrole-induced pulmonary injury
L. H. Bruner, K. J. Johnson, G. O. Till, and R. A. Roth H258

T_3 treatment does not prevent myocardial dysfunction in chronically diabetic rats
R. W. Barbee, R. E. Shepherd, and A. H. Burns H265

High-intensity exercise training increases vascular transport capacity of rat hindquarters
W. L. Sexton, R. J. Korthuis, and M. H. Laughlin H274

Matching between feline left ventricle and arterial load: optimal external power or efficiency
G. P. Toorop, G. J. Van den Horn, G. Elzinga, and N. Westerhof H279

Effects of vasoactive stimuli on blood flow to choroid plexus
F. M. Faraci, W. G. Mayhan, J. K. Williams, and D. D. Heistad H286

O_2 consumption of dog heart under decreased coronary perfusion and propranolol
H. Suga, Y. Goto, Y. Yasumura, T. Nozawa, S. Futaki, N. Tanaka, and M. Uenishi H292

Single capillary permeability to proteins having similar size but different charge
R. H. Adamson, V. H. Huxley, and F. E. Curry H304

Autonomic modulation of atrioventricular conduction in ouabain-treated dogs
D. W. Wallick, S. L. Stuesse, and P. J. Martin H313

O_2 modulation of single-vessel hydraulic conductance
V. L. Tucker and V. H. Huxley H317

Left ventricular function during chronic endotoxemia in swine
K. Lee, H. van der Zee, S. W. Dziuban, Jr., K. Luhmann, and R. D. Goldfarb H324

Effect of hemodilution on oxygen transport in arteriolar networks of hamster striated muscle
L. Kuo and R. N. Pittman H331

Effects of age and training status on heart rate recovery after peak exercise
K. C. Darr, D. R. Bassett, B. J. Morgan, and D. P. Thomas H340

Spatial heterogeneity of local blood flow and metabolite content in dog hearts
D. Franzen, R. S. Conway, H. Zhang, E. H. Sonnenblick, and C. Eng H344

Stimulating intestinal afferents reflexly activates cardiovascular system in cats
G. A. Ordway, K. R. Boheler, and J. C. Longhurst H354

Aortic pressure reduction redistributes transmural blood flow in dog left ventricle
J. J. Smolich, P. L. Weissberg, A. Broughton, and P. I. Korner H361

Adenosine handling in interstitia of cremaster muscle studied by bioassay
D. E. Mohrman H369

Evaluation of baroreceptor reflex by blood pressure monitoring in unanesthetized cats
G. Bertinieri, M. Di Rienzo, A. Cavallazzi, A. U. Ferrari, A. Pedotti, and G. Mancia H377

MODELING METHODOLOGY FORUM

Microvascular exchange and interstitial volume regulation in the rat: model validation
J. L. Bert, B. D. Bowen, and R. K. Reed H384

No. 3. MARCH 1988

INVITED REVIEW

Direct G protein gating of ion channels
A. M. Brown and L. Birnbaumer H401

Effects of hemodilution on skin microcirculation
S. Mirhashemi, G. A. Breit, R. H. Chavez Chavez, and M. Intaglietta H411

Adenosine deaminase attenuates norepinephrine-induced coronary functional hyperemia
H. F. Downey, G. F. Merrill, S. Yonekura, N. Watanabe, and C. E. Jones H417

Specific albumin binding to microvascular endothelium in culture
J. E. Schnitzer, W. W. Carley, and G. E. Palade H425

Cardiovascular effects of AVP and ANG in experimental pulmonic stenosis in rats
G. A. J. Riegger, M. Albert, and K. Kochsiek H438

Effects of New World scorpion toxins on single-channel and whole cell cardiac sodium currents
A. Yatani, G. E. Kirsch, L. D. Possani, and A. M. Brown H443

Distensibility of hepatic venous resistance sites and consequences on portal pressure
C. V. Greenway and W. W. Lautt H452

Cholinergic neurotransmission in human corpus cavernosum. I. Responses of isolated tissue
I. Saenz de Tejada, R. Blanco, I. Goldstein, K. Azadzoi, A. de las Morenas, R. J. Krane, and R. A. Cohen H459

Cholinergic neurotransmission in human corpus cavernosum. II. Acetylcholine synthesis
R. Blanco, I. Saenz de Tejada, I. Goldstein, R. J. Krane, H. H. Wotiz, and R. A. Cohen H468

Influence of risk area size and location on native collateral resistance and ischemic zone perfusion
D. C. Gumm, S. M. Cooper, S. B. Thompson, M. L. Marcus, and D. G. Harrison H473

fMLP provokes coronary vasoconstriction and myocardial ischemia in rabbits
M. N. Gillespie, D. C. Booth, B. J. Friedman, M. R. Cunningham, M. Jay, and A. N. DeMaria H481

Effect of hypoxia on lung lymph flow in newborn lambs with left atrial hypertension
J. U. Raj, T. A. Hazinski, and R. D. Bland H487

Effects of dietary fish oil on cardiac responsiveness to adrenoceptor stimulation
D. K. Reibel, M. A. Holahan, and C. E. Hock H494

Angiotensin II prevents hypoxic pulmonary hypertension and vascular changes in rat
M. Rabinovitch, M. Mullen, H. C. Rosenberg, K. Maruyama, H. O'Brodovich, and P. M. Olley H500

Effects of nonhypotensive endotoxemia in conscious rats: role of prostaglandins
M. Burnier, B. Waeber, J. F. Aubert, J. Nussberger, and H. R. Brunner H509

Pressure overload changes cardiac skinned-fiber mechanics in rats, not in guinea pigs
R. Ventura-Clapier, H. Mekhfi, P. Oliviero, and B. Swynghedauw H517

Coronary hemodynamic responses during local hemodilution in canine hearts
G. J. Crystal H525

Ventricular preload alters intravascular and extravascular resistances of coronary collaterals
R. S. Conway, E. S. Kirk, and C. Eng H532

Development of pulmonary vascular response to oxygen
F. C. Morin III, E. A. Egan, W. Ferguson, and C. E. G. Lundgren H542

Influence of site of regional ischemia on LV cavity shape change in dogs
P. Marino, D. Kass, J. Lima, W. L. Maughan, W. Graves, and J. L. Weiss H547

Cardiovascular performance with *E. coli* challenges in a canine model of human sepsis
C. Natanson, R. L. Danner, M. P. Fink, T. J. MacVittie, R. I. Walker, J. J. Conklin, and J. E. Parrillo H558

Myocardial serotonin exchange: negligible uptake by capillary endothelium
T. C. Moffett, I. S. Chan, and J. B. Bassingthwaighte H570

Measurement of hydroxy-conjugated dienes after ischemia-reperfusion in canine skeletal muscle
T. Lindsay, P. M. Walker, D. A. G. Mickle, and A. D. Romaschin H578

Relationship between endocardial activation of SA valve and right atrium in domestic fowl
B. D. Feige and J. M. Goldberg H584

Response of hypertensive rats to acute and chronic conditions of static exercise
C. M. Tipton, S. McMahon, E. M. Youmans, J. M. Overton, J. G. Edwards, E. B. Pepin, and C. Lauber H592

Cardiac energetics and performance of exercised and food-restricted rats during aging
J. W. Starnes and W. L. Rumsey H599

MODELING METHODOLOGY FORUM

A model of the systemic arterial bed showing ventricular-systemic arterial coupling
M. B. McIlroy and R. C. Targett H609

ANNOUNCEMENTS H617

No. 4. APRIL 1988

EDITORIAL

Measuring right ventricular volumes
D. A. Kass H619

Rapid in vivo determinations of instantaneous right ventricular pressure and volume in dogs
F. Schwiep, S. S. Cassidy, M. Ramanathan, and R. L. Johnson, Jr. H622

β-Adrenergic control of resistance in individual vessels in rabbit tenuissimus muscle
P. Borgström, L. Lindbom, K.-E. Arfors, and M. Intaglietta H631

Quantification of arteriolar density and embolization by microspheres in rat myocardium
P. A. Wieringa, H. G. Stassen, J. D. Laird, and J. A. E. Spaan H636

Integration of heart rate and sympathetic neural effects on AV conduction
J. M. Loeb and J. M. deTarnowsky H651

Effect of afterload resistance on end-systolic pressure-thickness relationship
T. Aversano, W. L. Maughan, K. Sunagawa, and L. C. Becker H658

End-systolic pressure-volume relationships in dogs during ventilation with PEEP
A. J. Crottogini, P. Willshaw, J. G. Barra, G. J. Breitbart, and R. H. Pichel H664

Adrenergic and prostanoid mechanisms in control of cerebral blood flow in hypotensive newborn pigs
W. M. Armstead, C. W. Leffler, D. W. Busija, D. G. Beasley, and R. Mirro H671

Dissociation of hypoxia-induced calcium gain and rise in resting tension in isolated rat hearts
W. G. Nayler, J. S. Elz, and D. J. Buckley H678

Depressor neurons in rabbit caudal medulla act via GABA receptors in rostral medulla
W. W. Blessing H686

Central blood volume and blood pressure in conscious primates
K. G. Cornish, J. P. Gilmore, and T. McCulloch H693

Vascular injury in dogs during ischemia-reperfusion: improvement with ATP-$MgCl_2$ pretreatment
R. J. Korthuis, M. B. Grisham, B. J. Zimmerman, D. N. Granger, and A. E. Taylor H702

Vasoconstriction is amplified by autoregulation during vasoconstrictor-induced hypertension
G. A. Meininger and J. P. Trzeciakowski H709

Effect of fluorocarbon-for-blood exchange on regional cerebral blood flow in rats
P. A. Lee, A. L. Sylvia, and C. A. Piantadosi H719

Effect of experimental heart failure on peripheral sympathetic vasoconstriction
J. R. Wilson, W. Matthai, V. Lanoce, M. Frey, and N. Ferraro H727

Norepinephrine effects on fetal cardiovascular and endocrine systems
C. Y. Cheung and R. A. Brace H734

Peripheral chemoreceptor control of neurohypophysial blood flow
D. F. Hanley, D. A. Wilson, M. A. Feldman, and R. J. Traystman H742

Effect of nitroglycerin on myocardial collateral conductance in awake dogs
S. Brazzamano, J. C. Rembert, and J. C. Greenfield, Jr. H751

Electrophysiological evidence for α_1- and α_2-adrenoceptors in solitary tract nucleus
P. D. Feldman and H. C. Moises H756

Role of platelets in maintenance of pulmonary vascular permeability to protein
S. K. Lo, K. E. Burhop, J. E. Kaplan, and A. B. Malik H763

Microvascular control of capillary pressure during increases in local arterial and venous pressure
M. J. Davis H772

Intra- and extracellular markers in interstitial transudate of perfused rat hearts
W. Wienen and H. Kammermeier H785

SPECIAL COMMUNICATIONS

On-line measurement of aortic valve ring deformation during the cardiac cycle
R. J. van Renterghem, T. Arts, A. A. van Steenhoven, and R. S. Reneman H795

A simple method for measurement of left ventricular septal-lateral dimension
G. L. Freeman, D. Watkins, and W. C. Little H801

A new fabrication technique for directly coupled transmural cardiac electrodes
F. X. Witkowski and P. A. Penkoske H804

RAPID COMMUNICATIONS

Long-term hemodynamic actions of atrial natriuretic factor (99-126) in conscious sheep
D. G. Parkes, J. P. Coghlan, J. G. McDougall, and B. A. Scoggins H811

No. 5. MAY 1988

Effects of asynchrony on myocardial relaxation at rest and during exercise in conscious dogs
G. R. Heyndrickx, P. J. Vantrimpont, M. F. Rousseau, and H. Pouleur H817

Leukocyte depletion attenuates vascular injury in postischemic skeletal muscle
R. J. Korthuis, M. B. Grisham, and D. N. Granger H823

Vasomotor activity of diadenosine triphosphate and diadenosine tetraphosphate in isolated arteries
R. Busse, A. Ogilvie, and U. Pohl H828

Cardiopulmonary responses to continuous administration of endotoxin
D. L. Traber, H. Redl, G. Schlag, D. N. Herndon, R. Kimura, T. Prien, and L. D. Traber H833

Myoplasmic Ca^{2+}-force relationship studied with fura-2 during stimulation of rat aortic smooth muscle
G. Bruschi, M. E. Bruschi, G. Regolisti, and A. Borghetti H840

Dobutamine modifies myocardial infarct size through supply-demand balance
T. Miura, S. Yoshida, O. Iimura, and J. M. Downey H855

Reperfusion-induced arrhythmias: mechanisms of protection by glucose and mannitol
M. Bernier and D. J. Hearse H862

Endothelium inhibits norepinephrine release from adrenergic nerves of rabbit carotid artery
R. A. Cohen and R. M. Weisbrod H871

Blood pressure increases after injection of neuropeptide Y into posterior hypothalamic nucleus
J. R. Martin, M. C. Beinfeld, and T. C. Westfall H879

Serotonergic vasoconstriction in human fingers during reflex sympathetic response to cooling
J. D. Coffman and R. A. Cohen H889

Integrated regional work equals total left ventricular work in regionally ischemic canine heart
Y. Goto, Y. Igarashi, Y. Yasumura, T. Nozawa, S. Futaki, K. Hiramori, and H. Suga H894

Baroreflex modulation by cardiopulmonary receptors during chronic sodium depletion
S. F. Echtenkamp and A. C. Anderson H905

Effect of pathological blood histamine levels on canine coronary vascular permeability
C. F. Pilati and M. B. Maron H912

Response of arteriolar network of skeletal muscle to sympathetic nerve stimulation
M. A. Boegehold and P. C. Johnson H919

Periarteriolar and tissue Po_2 during sympathetic escape in skeletal muscle
M. A. Boegehold and P. C. Johnson H929

Two components of coupling calcium in single ventricular cell of rabbits and rats
T. L. Rich, G. A. Langer, and M. G. Klassen H937

Cardiovascular and hormonal response to hemorrhage in conscious rats
G. Fejes-Tóth, T. Brinck-Johnsen, and A. Náray-Fejes-Tóth H947

Evidence for lack of importance of oxygen free radicals in *Escherichia coli* endotoxemia in dogs
M. J. Novotny, M. H. Laughlin, and H. R. Adams H954

Area postrema and cardiovascular regulation in rats
K. M. Skoog and M. L. Mangiapane H963

Adenosine potentiates insulin-stimulated myocardial glucose uptake in vivo
W. R. Law and R. M. Raymond H970

Autonomic nervous system pulmonary vasoregulation after hypoperfusion in conscious dogs
P. W. Clougherty, D. P. Nyhan, B. B. Chen, H. M. Goll, and P. A. Murray H976

Postsynaptic adrenoceptor-mediated vasoconstriction in coronary and femoral vascular beds
D. G. Chen, X.-Z. Dai, and R. J. Bache H984

Release of norepinephrine from the paraventricular hypothalamic nucleus of hypertensive rats
J. M. Qualy and T. C. Westfall H993

Coronary vasodilation during global myocardial hypoxia: effects of adenosine deaminase
H. M. Wei, Y. H. Kang, and G. F. Merrill H1004

SPECIAL COMMUNICATIONS

Piezoelectric polymer curvature sensor for measurement of regional curvature radius of LV wall
K. Tsujioka, Y. Ogasawara, K. Mito, O. Hiramatsu, Y. Wada, M. Goto, S. Matsuoka, M. Kagiyama, and F. Kajiya H1010

Endotoxemia and neutrophil activation in vivo
M. B. Grisham, J. Everse, and H. F. Janssen H1017

No. 6. JUNE 1988

Histamine dilates pial arterioles of newborn pigs through prostanoid production
R. Mirro, D. W. Busija, W. M. Armstead, and C. W. Leffler H1023

Vasorelaxation and vascular binding sites for atrial natriuretic peptide in pregnant rats
J. St-Louis, A. Parent, J. Gutkowska, J. Genest, and E. L. Schiffrin H1027

Volume overload hypertrophy in a closed-chest model of mitral regurgitation
J. P. Kleaveland, W. G. Kussmaul, T. Vinciguerra, R. Diters, and B. A. Carabello H1034

Contribution of kininase II to the waning of vascular actions of bradykinin
S. W. Adamski and G. J. Grega H1042

Optimal matching between canine left ventricle and afterload
E. S. P. Myhre, A. Johansen, and H. Piene H1051

Wall shear rate in arterioles in vivo: least estimates from platelet velocity profiles
G. J. Tangelder, D. W. Slaaf, T. Arts, and R. S. Reneman H1059

Functional consequences of acute anterior vs. posterior wall ischemia in canine left ventricles
B. D. Hoit and W. Y. W. Lew H1065

Pulsatile vs. mean component of baroreflex compensation for posthemorrhage hypotension
T. Yamazaki, M. J. Brunner, and K. Sagawa H1074

Functional and anatomical recovery of endothelium after denudation of coronary artery
Y. Hayashi, H. Tomoike, K. Nagasawa, A. Yamada, H. Nishijima, H. Adachi, and M. Nakamura H1081

Different ATP-catabolism in reperfused adult and newborn rat hearts
P. W. Achterberg, A. S. Nieukoop, B. Schoutsen, and J. W. de Jong H1091

Right ventricular hypertrophy long after reversal of severe pressure overload in cats
T. Wisenbaugh and W. N. O'Connor H1099

Albumin improves stability and longevity of perfluorochemical-perfused hearts
L. D. Segel and J. L. Ensunsa H1105

Identifiability of left ventricular end-systolic pressure-volume relationships
L. P. van der Linden, E. T. van der Velde, A. V. G. Bruschke, and J. Baan H1113

Interstitial transudate concentration of adenosine and inosine in rat and guinea pig hearts
U. K. M. Decking, E. Juengling, and H. Kammermeier H1125

Mechanisms of reoxygenation-induced calcium overload in cultured chick embryo heart cells
J. G. Murphy, T. W. Smith, and J. D. Marsh H1133

Nonadrenergic and noncholinergic excitatory neurotransmission in rat intrapulmonary artery
T. Inoue and M. S. Kannan H1142

Distribution of vascular resistance in terminal arteriolar networks of cat sartorius muscle
A. S. Popel, A. Liu, B. Dawant, A. Koller, and P. C. Johnson H1149

Basis for tetrodotoxin and lidocaine effects on action potentials in dog ventricular myocytes
J. A. Wasserstrom and J. J. Salata H1157

Studies on sequestration of neuraminidase-treated red blood cells
S. Simchon, K.-M. Jan, and S. Chien H1167

Role of median preoptic area in vasopressin-mediated bradycardia
K. P. Patel and P. G. Schmid H1172

Intracellular Po_2 in long axis of individual fibers in working dog gracilis muscle
T. E. J. Gayeski and C. R. Honig H1179

SPECIAL COMMUNICATIONS

Perfused rat intestine for study of norepinephrine release
A. P. Shepherd, G. L. Riedel, and T. K. Keeton H1187

Effects of intermittent hypoxia on structural vascular adaptation in chick embryos
T. H. Adair, J.-P. Montani, and A. C. Guyton H1194

RAPID COMMUNICATIONS

α-Subunit of G_k activates atrial K^+ channels of chick, rat, and guinea pig
G. E. Kirsch, A. Yatani, J. Codina, L. Birnbaumer, and A. M. Brown H1200

Inotropic agents modulate gap junctional conductance between cardiac myocytes
J. M. Burt and D. C. Spray H1206

Venular endothelial cells from bovine heart
M. E. Schelling, C. J. Meininger, J. R. Hawker, Jr., and H. J. Granger H1211

Role of platelet-activating factor in primary hemostasis
M. Livio, G. Vigano, M. Morigi, A. Ubiali, M. Galbusera, and G. Remuzzi H1218

LETTERS TO THE EDITOR

Activation of atrial muscarinic-gated K^+ channels by $\beta\gamma$-subunits of G proteins
D. Clapham and E. Neer H1224

Subject Index to Volume 23 H1225
Author Index to Volume 23 H1234

CORRIGENDA

Volume 254, January 1988
Volume 23, January 1988

Page H191: B. J. Pardini, D. D. Lund, Robert D. Wurster, and R. H. Anderson. "An electronic, negative feedback device to control arterial pressure." The received dates should read: "Received 5 June 1987; accepted in final form 27 August 1987.

Volume 254, February 1988
Volume 23, February 1988

Page H339: L. Kuo and R. N. Pittman. "Effect of hemodilution on oxygen transport in arteriolar networks of hamster striated muscle." Reference 22 should appear as follows.

22. PITTMAN, R. N., AND B. R. DULING. Measurement of percent oxyhemoglobin in the microvasculature. *J. Appl. Physiol.* 38: 321–327, 1975.

(*Continued on next page*)

Volume 253, September 1987
Volume 22, September 1987

Page H556: J. C. Longhurst and L. E. Dittman. "Hypoxia, bradykinin, and prostaglandins stimulate ischemically sensitive visceral afferents." Replace Figs. 2*B*, 5*B*, and 8 with the following.

Page H560:

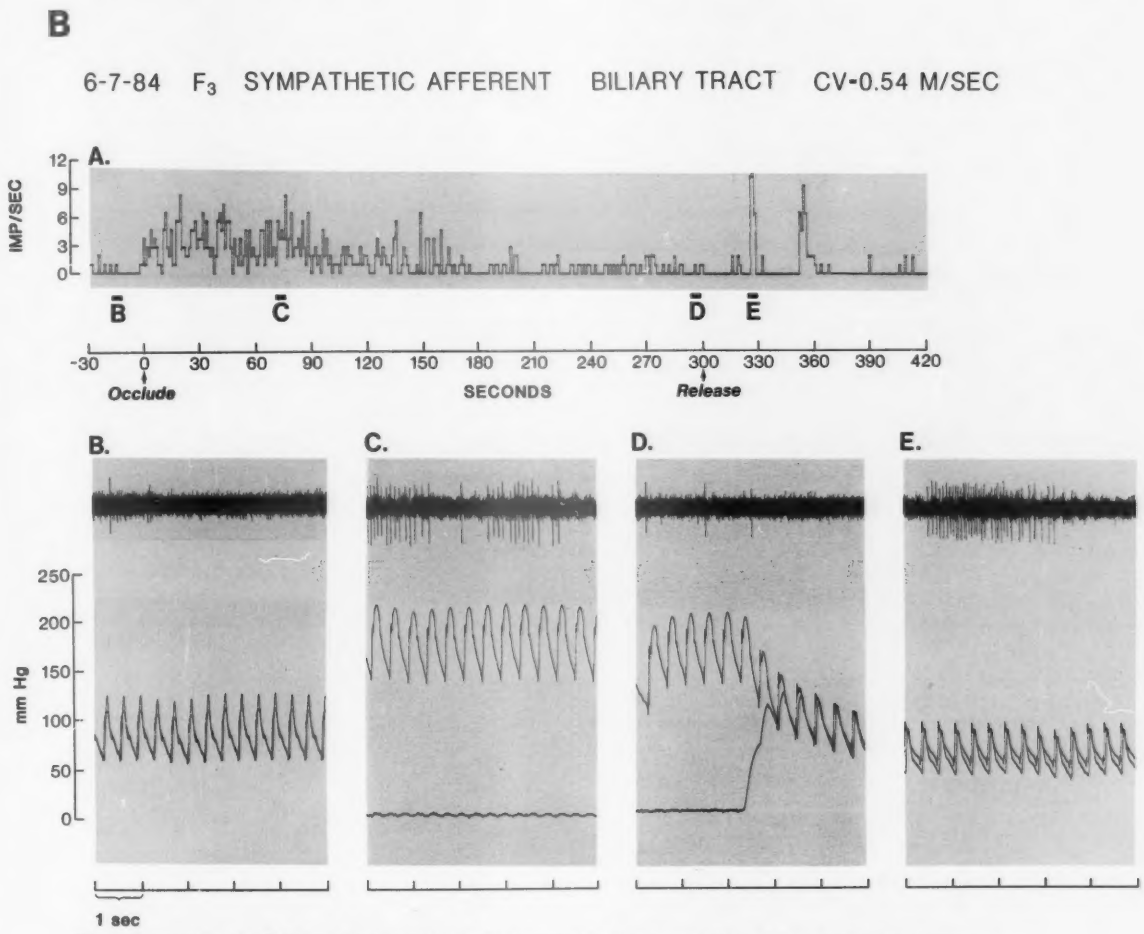


Fig. 2. B: response of a C fiber ending (cv = 0.54 m/s) innervating biliary tract to 5 min of ischemia. Blood pressure recordings shown in Fig. 2*B*, *B-E*, were measured in thoracic aorta, proximal to occlusion cuff, and in abdominal aorta.

(*Continued on next page*)